

# **Appendix 5-F**

## **Mine Roads**

## **GENERAL COMMENTS**

### **Construction**

All roads shall be constructed and maintained in such a manner that the approved design standards are met throughout the life of the entire transportation facility. This shall include maintenance of the surface, shoulders, parking, side areas, and erosion control structures for safe and efficient utilization of the road. Road are shown on [Plates 5-2](#). Cross sections and profiles are found on [Plates 5-4](#).

The horizontal alignment of each road is consistent with the existing topography and with the volume, speed, and weight of anticipated traffic. The highly traveled Primary Haul Road and Portal Access Road are surfaced with 4 in. min of durable road base material. The high percentage of coarse granular material in the native soil provides for adequate surfacing of the remaining roads. Additional road base may be added to all roads as required. Damage to the roads from use or weather events shall be promptly repaired.

Ditches and culverts have been designed and installed to control and safely pass or contain run-off from a 10-yr, 24-hr precipitation event. Ditches are rip-rapped as required. Culverts are fitted with trash racks to prevent plugging and buried adequately to prevent crushing. Rock or concrete headwalls are provided at inlets to all culverts, and

rip-rap or other erosion protection is provided at the outlet. Design and description of drainage structures can be found in [Chapter 7](#). Ditches and culvert locations are shown on [Plates 7-1](#).

### **Environmental Protection**

All roads shall be constructed and maintained in such a manner to prevent damage to fish, wildlife, and related environmental values. This is accomplished by;

- a. Maintaining hydrologic controls, such as ditches, culverts, diversions and sedimentation ponds to assure that disturbed drainage is conveyed away from undisturbed drainage and either held or cleaned before releases.
- b. Watering of roads as necessary to reduce fugitive dust.
- c. Protection of wildlife within the permit area and reporting of sightings of threatened and endangered species.
- d. Contemporaneous reclamation.
- e. Advocating good-housekeeping practices to reduce the possibility of contamination of surface waters in the area.
- f. Co-Op is committed that all support facilities will be restored to prevent damage to fish, wildlife, and related environmental values and the possibility of additional contributions of suspended solids to stream flow or runoff outside the permit area will be minimal.

## **Reclamation**

All roads shall be removed upon completion of the mining operation except those approved as part of the post-mining land use. The timing and procedure of removal and reclamation is discussed in detail under the Backfilling and Grading Plan in [R645-301-553](#) See [R645-301-540](#), and [Chapters 7, 2 and 3](#) for full reclamation procedures.

During reclamation road surfacing material will be removed and salvaged or buried as fill material in the reclamation of highwalls, see [Appendix 5-I](#). Reclamation will then be accomplished by ripping up the remaining base, and ensuring that suitable plant growth material is in place prior to planting the area with the approved seed mix. During this time, all culverts shall be removed and either salvaged or disposed of in an approved landfill, and the natural drainage patterns shall be restored.

## **PRIMARY ROADS**

There are 11 Primary roads within the Permit Area. Each road is described below. Construction of the Tank Seam Access road is described in [Appendix 5-G](#). Construction of the Wild Horse Ridge Access road and Conveyor Access roads are described in [Appendix 5-J](#). Construction of the No. 4 Mine Access Road is described in [Appendix 5-K](#).

## **Primary Haul Road**

The Bear Canyon Haul Road is approx 3690 ft long from the gate to the base of the Portal Access Road and Tipple Access Road. See [Plates 5-2](#) and [5-4](#). As shown on [Plates 5-2](#), this portion of the road is included in the Permit Area. This Primary road is constructed approximately 30 ft wide and is surface with 4 in. minimum of road base material. Approximately 160 ft of the road adjacent to the scalehouse is to be surfaced with 6 in. of pavement. Installation of the black top will involve hauling in a hot mix from a local asphalt plant and laying it on the road. The road is crowned in the middle as shown on the cross section, [Plate 5-4](#).

Reclamation of this portion of the Bear Canyon Road will occur at approx the same time as the final removal of the sedimentation ponds and diversions on the mine site. Removal of the asphalt on this road will consist of hauling the material to a landfill approved for solid waste disposal and/or recycling of the material in cooperation with a local asphalt plant. The road will be narrowed, but will remain in place for the post-mining land use.

## **Primary Access Roads**

The Portal Access Road is approx 3,170 ft long. The road was originally constructed for access to the old Bear Canyon Mine, and has since been widened and fitted with proper drainage controls to protect the environment. The road is designed, used and maintained to meet the DOGM requirements, and to control or minimize erosion and siltation, air and water pollution, and damage to public or private property.

The road is located along the canyon floor above the stream, and along the stable slope leading to the portals. The overall grade of the road does not exceed 1:V:10h (10 pct) and the max grade does not exceed 1:V:6.5h (15 pct).

As mentioned earlier, the initial road was constructed under pre-law conditions, using the cut and fill side-cast method. A stability analyses was performed on the road by Dames & Moore in 1981 ([Appendix 5-H](#)). Their conclusion was that the Bear Canyon Portal Access Road has a stability factor of safety of a minimum of 1.43, and ranges upward to 2.15.

## **Shower House Road**

This road is 200 ft long and is to be constructed in 1993 to provide access to the shower house area. The road varies from a 0% to 11% grade, with an average grade of 7%. The embankment of the road where it crosses Bear Creek will be constructed at a maximum slope of 1V:1.5H, or 67%. The properties of the material to be used are

similar to the material of existing embankments. [Appendix 5-H](#) contains a slope stability analysis of similar material on nearby embankments. This analysis shows a minimum slope stability safety factor of 1.68, assuming saturated conditions, which exceeds the minimum required safety factor of 1.3 ([pg 5-H-18 thru 5-H-20](#)).

### **Road to Sediment Pond A**

This road is 340 ft long and was constructed to allow access to the Sediment Pond and to facilitate cleaning of the drainage to the pond. The road is in actuality the disturbed drainage ditch, D-6D, to Sediment Pond A, and is used infrequently to clean sediment from the pond. The road has an overall slope of approx 3.5 pct and does not exceed 10 pct at any point.

### **Tipple Access Road**

This road is 600 ft long, and was constructed to provide access to the Coal Preparation Facility. The road has an overall slope of approx 12 pct, and does not exceed 25 pct at any point.

### **Shop Road**

This road is 160 ft long, and provides access to the Shop Pad. The road has an overall slope of approximately 1 pct, and does not exceed 5 pct at any point.

### **Tank Seam Access Road**

This road is approximately 3,150 ft long, and provides access to the Bear Canyon #2 Mine, located in the Tank Seam. The road has an overall slope of approximately 9 percent, and does not exceed 17 percent at any point. Construction of this road is discussed in [Appendix 5-G](#).

The Tank Seam Access Road will be maintained in accordance with the requirements of this Appendix. During snow storms, snow will be plowed to and stored against the cut slope of the road along the ditches, in order to prevent saturation of the fill outcrops along the road due to snow melt

### **Wild Horse Ridge Access Road**

This road is approximately 4,850 ft long, and provides access to the Bear Canyon #3 Mine, located in the Blind Canyon Seam in Wild Horse Ridge. The road has an overall grade of 10.5 percent, and does not exceed 18 percent at any point. This road existed prior to mining and will remain in place to meet the post-mining land use. Construction of this road is discussed in [Appendix 5-J](#).



### **Wild Horse Ridge Conveyor Access Roads**

These two roads provide access to remote portions of the Wild Horse Ridge conveyor. The lower road (No. 1) is approximately 600 ft long, averaging 10 percent grade. The upper road (No. 2) is approximately 590 ft long, averaging 19.5 percent grade. Construction of these roads are described in [Appendix 5-J](#).

These roads will be reclaimed in the same manner as the Tank Seam Access Road, as described in [R645-301-540](#).

### **Wild Horse Ridge No. 4 Mine Access Road.**

This road is approximately 2,000 ft, long, averaging 10 percent grade. Part of this road existed prior to mining and will remain in place to meet the post-mining land use. Construction of this road is described in Appendix 5-K.

### **ANCILLARY ROADS**

The only Ancillary Road within the permit area is a jeep trail that was constructed pre-law, probably as a cattle trail. This road is shown on [Plate 5-2C](#). The road is blocked off, is not within the disturbed area, and is not used; therefore, no maintenance or reclamation plan is proposed for this trail.

CO-OP MINING CO.  
BOX 1245  
HUNTINGTON, UTAH 84528  
Aug. 8, 1983

S U B M I T T A L

TO:

DIVISION OF OIL GAS AND MINING  
4241 STATE OFFICE BUILDING  
SALT LAKE CITY, UTAH 84114

RECEIVED  
AUG 08 1983

DIVISION OF  
OIL GAS & MINING

Co-op Mining Co. submits the following plans for that portion of the haul road in the Bear Creek Canyon designated as a private road in the enclosed copy of the agreement between Emery County and Co-op Mining Co. The road coincides with the existing Bear Canyon road, which follows the original contour of the land, minimizing additional disturbance or adverse effects on the environment. There will be no cut or fill sections, and no material side-cast. If any new area is disturbed, any suitable topsoil will first be removed and stockpiled as described in the topsoil plan previously submitted. At the time of final reclamation, the road will be reclaimed as outlined in the previously submitted reclamation plan, unless it is determined to be necessary for post mining land use. Hydrology for the drainage controls has been calculated by Horrocks Engineers (See appendage A). Culverts will be galvanized corrugated type.

Please see enclosed map, profile, and cross-section for construction detail. (Plate 3-5)

CO-OP MINING COMPANY

*Wendell Owen*  
WENDELL OWEN

## AGREEMENT

This agreement made and entered into this 3rd day of August 1983, by and between Emery County, a body corporate and politic (County), and Co-Op Mining Company, a Utah general partnership (Co-Op),

WHEREAS, there is an existing road in Emery County known as Bear Creek Road, and

WHEREAS, Co-Op requires extensive use of said road, and

WHEREAS, due to said extensive use, said road should be relocated for the health, safety and welfare of the citizens of County as well as others who may have occasion to use said road,

NOW, THEREFORE, be it agreed as follows:

1. The parties hereto agree and acknowledge that the southern 0.65 miles of the road known as Bear Creek Road is a County road. Said County road runs from State Road 31 in a northerly direction for approximately 0.65 miles to a presently existing gate. Thereafter the road is a private road.
2. That Co-Op will relocate the Bear Creek Road according to the plans and specifications prepared by the Emery County Engineer and described on the document entitled Bear Canyon County Road Relocation dated October 12, 1982.
3. Co-Op will relocate the Road according to the plans and specifications referred to above at their expense. Co-Op will reimburse County for engineering costs incurred by County concerning the preparation of said plans and specifications and site inspections up to One Thousand (\$1,000.00) Dollars.
4. Co-Op will indemnify and defend County for any damage caused, or loss incurred to or claim made by any public or private individual, firm, group, association, partnership or corporation as a result of the construction conducted to relocate Bear Creek Road. Said indemnification will continue until such time as County approves the completed roadway and accepts the construction thereof.
5. Co-Op acknowledges and accepts the easements of North Emery Water Users and Huntington City which exist in, along and across the relocate Bear Creek Road. Said easements are in existence on the ground. Co-Op's acknowledgment thereof herein recognizes and preserves said easements.
6. Co-Op agrees to encase water lines of North Emery Water Users and Huntington City in nestable corrugated pipe pursuant to plans and specifications prepared by the Emery County Engineer.

7. Co-Op agrees to allow access to other property served by the relocated Bear Creek Road. Said access shall be allowed to the owner of the property, their successor in interest or any other individual, firm, group, association, partnership or corporation who requires access due to their association with the owner or because the owner has granted permission to the individual, firm, group, association, partnership or corporation to go upon his property. Co-Op will not withhold access due to the type of activity which the then owner or his agents, employees or invitees intend or in fact conduct.

8. Co-Op will provide a completion and performance bond to Emery County upon the execution hereof in the amount of Twenty-Five Thousand (\$25,000.00) Dollars which will remain in force and effect for twelve (12) months after the date said road is accepted by County as indicated in paragraph 4 above.

9. Co-Op will provide liability insurance in an amount not less than Five Hundred Thousand (\$500,000.00) Dollars to be in force during the construction of said road. Said policy will name County as an insured.

10. Co-Op agrees to complete said road in a timely manner not to exceed eighteen (18) months from the date of this agreement. County may make demand upon the bonding company under the bond provided pursuant to paragraph 8 above and secure completion of the relocation in the event construction is not completed within the agreed upon eighteen (18) months.

11. It is further understood that any additional improvements of the relocated Bear Creek Road will be at the expense of all primary users.

12. The Co-Op agrees to reclaim that portion of the old Bear Creek Road according to the specifications and requirements of the Bureau of Land Manager (BLM).

13. That the Co-Op agrees to provide Emery County with the necessary easement agreements with the Utah Department of Transportation.

14. Co-Op acknowledges and agrees to comply with standard number 6.3.8 "Protection Zone" of the Utah State Health Drinking Water Standards as it applies to supplies of drinking water in Bear Canyon.

15. County agrees to inspect the relocated Bear Creek Road within ten (10) days after notification by Co-Op of the completion thereof. County must within five (5) working days of said inspection accept the road or notify Co-Op of any deficiencies which must be then corrected by Co-Op within the time period outlined in paragraph 10 above. Should County fail to notify Co-Op of any deficiencies within five (5) working days, the road is deemed accepted by County and the twelve (12) month period indicated in paragraph 8 above begins to run from the sixth (6th) day after inspection.

IN WITNESS WHEREOF, this agreement is executed the day and year above first written, at Castle Dale, Utah, pursuant to a resolution of the Emery County Board of Commissioners at a regularly scheduled meeting of the Board.

EMERY COUNTY, a body politic and corporate,

ATTEST

*Don A. Turk*  
County Clerk

By *Rue P. Ware*  
Chairman of the Emery County  
Board of Commissioners

IN WITNESS WHEREOF this agreement is executed at Huntington, Utah.

DATED this *3rd* day of *August*, 1983.

CO-OP MINING COMPANY, a Utah general partnership

By *B. W. Stoddard*  
a General Partner